

# Oil Market Basics

## WEBQUEST

[http://www.eia.doe.gov/oil\\_gas/fwd/oilbasics.html](http://www.eia.doe.gov/oil_gas/fwd/oilbasics.html)

### QUICK LOOK:

Students work in groups to conduct a webquest of the U.S. Energy Information Administration's **Oil Market Basics** website to gather information about specific topics related to the global oil market, then design and make a mural and presentations using that information.

### GRADE LEVEL:

Secondary

### SUBJECT AREA:

Social Studies  
Economics

### TIME:

Five to Eight Class Periods

### BACKGROUND:

The **Oil Market Basics** website is divided into multiple sections. There is a brief introduction explaining the goals and objectives of the site, followed by sections on *Supply*, *Demand*, *Trade*, *Refining*, *Stocks*, and *Prices*. There are links to graphs and data throughout the materials and two sections at the end--a collection of *Graphs and Charts* and *Links to EIA Data and Other Web Resources*. This activity is designed to focus on the *Supply*, *Demand*, *Trade*, *Refining*, and *Stocks* sections.

### CONTENT GOALS:

- To understand the different segments of the oil market and how they are connected, including supply, demand, trade, refining, and stocks.
- To understand how each segment (supply, demand, trade, refining, and stocks) affects oil pricing.
- To understand the global oil economy, including where oil is being produced, which countries are using the most oil, which countries have shown a significant increase or decrease in their supply or demand in recent years, and how the United States compares to other industrialized countries.

### DAY ONE: INTRODUCTION TO PETROLEUM

*In the computer lab*

- Students go online and read the petroleum fact sheet of [NEED's Secondary Energy Infobook](#).
- Students take a short quiz reviewing the information in the fact sheet.
- Students read the short article on oil-related [taxes](#) to identify the four types of taxes and fees associated with the production, trade, and sale of oil (severance tax, royalties, import tariffs, and excise taxes) and answer the following question:  
At what stage in the petroleum process is each tax levied, and to whom is the tax paid?

## DAY TWO: INTRODUCTION TO THE ACTIVITY

*In the classroom*

### 1. As a class, complete the following activities:

- On a transparency, use the information from the previous day to diagram the process that crude oil goes through before it reaches a vehicle as gasoline (Exploration, Production, Transportation, Refining, Distribution, Sale). Have each student make a copy of the diagram for later use.
- Because the activity will explore the entire oil market, brainstorm additions to the diagram to incorporate other fuels and uses. (For example, after refining, jet fuel goes to airports to fuel airplanes, some products go to petrochemical plants for further refining, some products go to manufacturing plants to make plastics, etc.)
- Review the four types of taxes and fees. On the diagram, indicate where each tax or fee occurs. (Severance tax and royalties are associated with the drilling phase, import tariffs are associated with transport/trade, and excise taxes are associated with the sale of gasoline and diesel.)

### 2. Explain the two objectives of the unit:

- The class will be divided into five groups to learn and teach about one of the five topics, as follows: supply, demand, trade, refining, and stocks. The members of each group will be responsible for becoming experts about their topic and contributing the information about their topic to the exhibit. Each group will also be responsible for giving a presentation on their topic, highlighting the main points and answering the Guiding Questions that pertain to their topic.
- As a class, you will create a large mural/exhibit that answers the following questions:

### GUIDING QUESTIONS

1. What are the processes and aspects of the global oil market?
2. How are these processes connected?
3. What are the variables in each of the processes?
4. How do these variables affect oil market prices?
5. What areas and countries are the biggest suppliers of oil?
6. What countries consume the most oil?
7. How much oil does the United States use?
8. How much oil does the United States import and from what countries?

*Alternative Activity: Instead of a mural, the class can create a website or PowerPoint presentation that accomplishes the same goals as the mural.*

## DAY THREE: RESEARCH THE TOPICS

*In the computer lab*

*Materials Needed: Index cards for each group*

- In the computer lab, each group will be responsible for reading their section of [Oil Market Basics: Supply, Demand, Trade, Refining, and Stocks](#). They must also complete the following tasks:
  1. Identify the major points of the section, the most important things everyone should understand. *When you give your presentation, what areas are you going to spend the most time explaining?*
  2. Identify the variables that affect the oil market. Write each variable on a separate index card.
  3. As a group, discuss how to update the diagram based on the reading. Remember to keep the eight main questions in mind when discussing the updates.

*Alternative option: If the students have access to computers at home or during study periods, you may introduce the following tasks on day two and provide the web address so that they can complete the initial readings for homework.*

## DAY FOUR: PLAN THE MURAL/EXHIBIT

*In the classroom*

*Preparation: Transfer the initial transparency of the oil market diagram onto the chalkboard or a large piece of butcher paper.*

- Have each group briefly list their main points, then discuss their suggested updates and add them to the diagram.
- After the diagram has been updated by all of the groups, have each group discuss their variables, then tape them onto the appropriate places on the diagram.
- The final diagram with the cards will become the model for the mural/exhibit. Have the students update their individual diagrams.

## DAYS FIVE & SIX: CREATE THE MURAL/EXHIBIT AND DEVELOP PRESENTATIONS

*In the classroom and/or the computer lab*

### 1. Each group will work on your specific topic. The goals for the groups include:

- a. Write a summary of your topic to explain the process and answer as many of the Guiding Questions as possible.
- b. Write explanations of all the points at which price may fluctuate, expanding on the index cards used earlier.
- c. Design and create illustrations to explain the process.
- d. Find graphs and photos from your section and from [the graphs and charts](#) page that explain your major points and the points of fluctuation.
- e. Create one general question about your topic to ask people who look at the mural. Submit it to your teacher for approval.

**2. Each group will be responsible for making a presentation about your topic to the class.**

**Presentations should be between 5 and 10 minutes. Tasks include:**

- a. Review the major points that were identified on Day Three. Brainstorm logical and engaging ways to present the major points to your class.
- b. Review the areas of fluctuation.
- c. Develop a presentation to include your major points, areas of fluctuation, and answer the Guiding Questions covered in your topic.
- d. Create five specific questions about your topic to ask the class. Submit them to your teacher for approval.

**DAY SEVEN: PRESENTATIONS**

*In the classroom*

Each group gives its presentation.

**Oil Market Basics:  
Oral Presentation Rubric**

CATEGORY	4	3	2	1
<b>Content</b>	Shows a full understanding of the topic.	Shows a good understanding of the topic.	Shows a good understanding of parts of the topic.	Does not seem to understand the topic very well.
<b>Comprehension</b>	Student is able to accurately answer almost all questions posed by classmates about the topic.	Student is able to accurately answer most questions posed by classmates about the topic.	Student is able to accurately answer a few questions posed by classmates about the topic.	Student is unable to accurately answer questions posed by classmates about the topic.
<b>Collaboration with Peers</b>	Almost always listens to, shares with, and supports the efforts of others in the group. Tries to keep people working well together.	Usually listens to, shares with, and supports the efforts of others in the group. Does not cause "waves" in the group.	Often listens to, shares with, and supports the efforts of others in the group but sometimes is not a good team member.	Rarely listens to, shares with, and supports the efforts of others in the group. Often is not a good team member.
<b>Preparedness</b>	Student is completely prepared and has obviously rehearsed.	Student seems pretty prepared but may have needed a couple more rehearsals.	The student is somewhat prepared, but it is clear that rehearsal was lacking.	Student does not seem at all prepared to present.

## DAY EIGHT: EVALUATION

*In the classroom*

**Evaluation Option 1:** Compile all the questions written by the students and use as an assessment of the unit.

**Evaluation Option 2:** Ask the students to make a diagram of the oil market, label the sectors, and list five things that can affect the price of oil.

**Evaluation Option 3:** Have students read copies of the [Prices](#) section. Have students evaluate the mural based on the information presented in this section and answer the following questions in short answer or paragraph form:

- What elements from “Prices” were included in the mural?
- What information was not included?
- Using your knowledge from the diagram, research, and the “Prices” section, hypothesize what may happen to the price of gasoline in the following circumstances:
  - A new drilling technology is introduced and wells are able to produce twice as much crude oil.
  - The amount of supply in the stocks is very high.
  - There is an increase in the number of tankers being seized by pirates on the way from the producing field to the refinery; the ships must take a longer, out-of-the-way route.
  - The government gives large tax breaks for producers and consumers of E85 (an alternative transportation fuel that consists of 15% gasoline and 85% ethanol—a fuel made from the sugars of grains, like corn).

**Evaluation Option 4:** Have students write essays that examine the United States’ oil market and how it compares with the world oil market. What are the differences in population, supply, imports, exports, demand, use, etc.?

## EXTENSIONS

**Extension 1:** Display the mural in your school or community to help people understand the complexities of the oil market and oil pricing.

**Extension 2:** Using the [EIA website](#) and other internet resources, research current prices at different stages: the price of crude oil, tax rates, price for refined products, price of final products to the consumer, etc. Track these prices over the course of a month, semester, or year to evaluate changes in prices and trends. Connect changes in the market to national or world events. Try to predict what changes are going to occur in the future.